

August 27, 2009

Peter DeVries
Washington State Building Code Council Chairman

Regarding: proposed code changes to 2009 IMC, Log #09-176 and #09-250.

Dear Mr. DeVries:

Background Information:

I wanted to let you know about a problem I recently became aware of with the soon to be adopted 2009 Washington State International Mechanical Code. I am the proponent of code change proposal #09-176, which modifies Section 202 of the IMC to include "*parking garage exhaust*" in the definition of *Environmental Air*. This was done to clarify that enclosed parking garage ventilation exhaust terminals would be required to meet environmental air exhaust outlet minimum distances found in item #3 of IMC Section 501.2.1. As you know, the mechanical code TAG endorsed my proposal.

Code change #09-250 deals with exhaust outlets for parking garages and transformer vault exhaust and was also endorsed by the Mechanical Code TAG. This proposal contradicts mine because it deletes parking garages from the environmental air exhaust outlet distances (see item #3 of Sec. 501.2.1) and adds a new requirement, item #5, which specifies essentially the same exhaust outlet distances found in item #2 for product conveying outlets. My question is, what is the point of adding parking garages to the definition of environmental air only to turn around and amend another code section to still require what would have been required if it were classified as product conveying exhaust?

Inconsistent Interpretation:

For years, mechanical engineers and contractors have taken issue with a lack of consistency amongst various jurisdictions on this issue. Some building code officials consider the exhaust air from parking garages to be "Environmental Air" and some consider it to be "Product Conveying". There are significant differences in the setback requirements between the two. I believe that the Council has responsibility to provide clear direction to building officials and the design community on this issue.

Setback requirements for "Environmental Air" and "Product Conveyance" exhaust and outlets (2009 IMC, Section 501.2.1) are as follows:

Environmental air exhaust:

- 3' from property lines
- 3' from operable openings into buildings for all occupancies other than Group U
- 10' from mechanical air intakes.

Such exhaust shall not be considered hazardous or noxious.

Product conveying outlets:

- 10' from property lines
- 3' from exterior walls and roofs
- 10' from operable openings into buildings
- 10' above adjoining grade

Supporting Documentation:

Bellevue and other municipalities have considered garage ventilation air to fall into the "Environmental Air" category. This is based on the definition of "Environmental Air" found in IMC Section 202 which states *"Air that is conveyed to or from occupied areas through ducts which are not part of the heating or air-conditioning system, such as ventilation for human usage, domestic kitchen range exhaust, bathroom exhaust and domestic clothes dryer exhaust."* We do not agree that ventilation for enclosed garages should be considered to be Product Conveyance. Although not defined in the code, product conveyance is typically considered to apply to exhaust of nonflammable and non-explosive dusts and waste products. We also contend that the air conveyed from enclosed garages via exhaust shafts, which is diluted by the ventilation system to provide acceptable levels of oxygen, is made up of the same ratio of fresh air & contaminants as the air contained within the garage so therefore does not create a public health risk. Clearly, this is not air that is appropriate to use for transfer or recirculation back into the building but it should be considered to be in the same category as kitchen, bath and laundry exhaust contained in the definition of environmental air.

Acceptable indoor air quality, as defined in ANSI/ASHRAE Standard 62.1-2007, is "air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities and with which a substantial majority (80% or more) of the people exposed do not express dissatisfaction". Enclosed parking garages must meet the Outdoor Air Requirements for Ventilation found in VIAQ, Table 3-4. VIAQ, Table 3-4 requires not less than 1.5 CFM per Sq. Ft. of fresh air for enclosed parking garages which clearly meets the ASHRAE definition of *Acceptable indoor air quality*. This is why I suggest that it is appropriate to consider garage ventilation exhaust as "Environmental Air" rather than "Product conveying" air.

The City of Bellevue does not support the use of product conveying outlet distances for enclosed parking garages because we feel the minimum 10' above adjoining grade requirement is excessive and can have significant financial impacts for commercial development with no value added.

Suggested Solution:

I understand that the City of Seattle has language in their code that requires not less than 10' from enclosed parking garage exhaust outlets to property lines and operable openings into buildings. The City of Bellevue supports these distance requirements but does not support the "10' above adjoining grade" requirement.

There is a way to fix this so it works for everyone. I am propose rescinding my proposal (#09-176) and request that the proponent of code change proposal #09-250 delete the "10' above adjoining grade" text from item #5 of Section 501.2.1. I have spoken with the proponent of code change proposal #09-250 and, at the time of our conversation, he was willing to endorse this modification. Please help us get this resolved as leaving it the way it is currently proposed is unacceptable.

Respectfully,

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